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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,028	03/17/2004	Takeshi Katayama	62807-174	3467

7590 07/19/2006

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Washington, DC 20005-3096

EXAMINER

REHM, ADAM C

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/802,028	KATAYAMA ET AL.	
	Examiner	Art Unit	
	Adam C. Rehm	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by ITO ET AL. (US 6,558,004), which discloses a projection type display unit (1) comprising:

- A light source unit (1);
- A first cooling fan that cools the light source unit (55, Column 8, Line 66-Column 9, Line 6);
- A light valve that modulates beams of light from the light source unit (411);
- A second cooling fan that cools the light valve and then cools an electric power source (Column 8, Lines 28-36 disclose a sirocco fan 52 that cools valve 411; Column 8 Lines 53-61 disclose fan 52 that cools the electric power-supply/source 35);
- A projection lens for projecting the modulated beams of light (46/414);
- A first cooling wind path provided by the first cooling fan and a second cooling wind path provided by the second cooling fan are substantially independent of each other (Column 9, Lines 7-53; as provided above, a plurality of fans are used to cool a plurality of parts, thus utilizing substantially independent cooling paths);

- Polarization converting elements cooled by a sirocco fan (415, Column 8, Line 66-Column 9, Line 6); and
- A duct that constitutes a wind path for cooling wind (37, Column 8, Lines 41-48).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2 and 4-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over ITO ET AL. (US 6,558,004) as applied to claim 1 above. ITO discloses the invention as claimed, but does not specifically disclose the arrangement as claimed by applicant. Specifically, ITO does not disclose the claimed arrangement of an air intake port, the light valve, a cooling fan and an electric power source with the valve arranged on an air intake side of the fan and the power source arranged on the exhaust side with the fan below or above the valve, the intake port above or below the valve. Moreover, while ITO discloses a fan for cooling a polarization conversion element (Column 8, Line 66-Column 9, Line 6), ITO does not disclose a fan that cools both the conversion element and the power source.

4. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to omit a number of the plurality of ITO fans in order to obtain known benefits, e.g., reduce energy consumed, reduce overall size and reduce

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fan-motor noise, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same function as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184. Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to modify ITO and use a single fan to cool the power source and polarization element in order to render the projector unit smaller with a reciprocal lower cost of manufacturing.

5. It has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70. ITO discloses the claimed elements as provided above, but not arranged in the claimed order. It is known that when a single fan cools a number of parts arranged along a single air path, the air along the air path increases in temperature exponentially as each part is cooled. Thus, it is obvious to arrange the existing parts of ITO in order of importance, by size, by heat generated or by susceptibility to heat with the lamp being situated in the closest possible proximity to a vent and cooled first, the fan being situated near the vent to generate air flow past the lamp and the power source being cooled thereafter.

Response to Amendment

6. Applicant's amendment filed 4/20/2006 has been received. The objections to the drawings are withdrawn.

Response to Arguments

7. Applicant's arguments filed 4/20/2006 have been fully considered but are not persuasive.

8. Applicant asserts that none of the ITO fans cool both the power source and the light valve. However, ITO discloses a second cooling fan that cools the light valve and then cools an electric power source (Column 8, Lines 28-36 disclose a sirocco fan 52 that cools valve 411; Column 8 Lines 53-61 disclose fan 52 that cools the electric power-supply/source 35). The rejection is maintained.

9. Applicant asserts that Examiner's obviousness rejection is improper. The concept of reducing a number of a plurality of fans in order to achieve obvious benefits e.g., reduce energy consumed, reduce overall size and reduce fan-motor noise, does not provide grounds for patentability when the remaining elements/fans perform the same function. *In re Karlson*, 136 USPQ 184. Likewise, upon removal of a number of fans, rearranging existing, well-known parts to allow the remaining fans to compensate for the loss of air circulation does not provide grounds for patentability. *In re Japiske*, 86 USPQ 70. The rejections are maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

8. Applicant asserts that none of the ITO fans cool both the power source and the light valve. However, ITO discloses a second cooling fan that cools the light valve and then cools an electric power source (Column 8, Lines 28-36 disclose a sirocco fan 52 that cools valve 411; Column 8 Lines 53-61 disclose fan 52 that cools the electric power-supply/source 35). The rejection is maintained.

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam C. Rehm whose telephone number is 571.272.8589. The examiner can normally be reached on M-F 9-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571.272.2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ACR
7/11/2006


Thomas M. Scarb
Primary Examiner